

United States Patent [19]

Weinberg et al.

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[54] LITHIUM COUNTERDOPED SILICON SOLAR CELL

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[58] Field of Search 136/261; 29/572, 576 B; 148/1.5; 357/30, 91

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[57] ABSTRACT

The resistance to radiation damage of an n+p boron doped silicon solar cell is improved by lithium counter-doping. Even though lithium is an n-dopant in silicon, the lithium is introduced in small enough quantities so that the cell base remains p-type.

The lithium is introduced into the solar cell wafer 10 by implantation of lithium ions whose energy is about 50 keV. After this lithium implantation, the wafer is annealed in a nitrogen atmosphere at 375° C. for two hours.

18 Claims, 4 Drawing Figures

